Report of the Roles, Responsibilities And Structures ("Clarity") Team[1]

June 24, 2004

The Need to Transform the Structure and Management of NASA

On January 14, 2004, President Bush announced that the United States would pursue a new Vision for Space Exploration. NASA immediately recognized that changes would need to be made in order to effectively and efficiently pursue that vision.

Shortly after the President's announcement, the Deputy Administrator formed the Roles, Responsibilities and Structure Team (also known as the "Clarity Team") charged to assess roles and responsibilities of the five top-level agency management positions, as well as the structural[2] relationships between and among them. These management positions included:

- Deputy Administrator;
- Institutional Program Officers, who are also Enterprise Associate Administrators[3], the managers of NASA's lines of business;
- Assistant Administrators for various functional support offices, which support the Enterprises;
- Center Directors; and
- Program Managers (including the full hierarchy of Program Directors (or Theme Directors), Program Managers, and Project Managers).

Several of these kinds of concerns had already been percolating and some had been under review long before the President's announcement. However, his announcement stimulated an urgency to come to a conclusion on these concerns. These concerns largely centered around four main areas:

- *Strategic Limitations* -- Whether the existing delegations of responsibility reinforce a more limited approach to managing different areas of NASA without regard to the needs of or synergy with other areas.

- *Conflicts of Interest* -- Whether the existing delegations of responsibility conflict with the need to think strategically about what was in the best

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[1] This report represents the Clarity Team report, as modified and approved by the Executive and Leadership Councils on various occasions.
[2] "Structural" is interpreted by the Clarity Team to mean the reporting and accountability relationships.
[3] This title will be changed. *See* Recommendation # 1,F.

interest of NASA as a whole and, hence, lead to stovepiped or sub-optimal decision making.

- *Ambiguous Reporting Lines* -- Whether the reporting relationships of these managers lead to ambiguities as to who reports to whom and thereby undermines accountability.

- *Excessive Span of Control* -- Whether the number of direct reports is too many to effectively manage.

Along the way, the Clarity Team identified and addressed a number of additional issues. In the end, based on many inputs from a wide variety of sources, the Clarity Team saw a number of good opportunities for improvement even beyond the four main areas of concern.

The Clarity Team was made up of a number of managers[4] selected by the Deputy Administrator who held widely differing views. All were united, however, in support of the new Vision for Space Exploration. All were well familiar with many of the challenges of managing within the existing constraints on a day-to-day basis. These managers knew the existing conflicts, the ambiguities, and the narrowness of views that was sometimes produced by existing roles, responsibilities and structures.

Although the team members were well familiar with the concerns, the Clarity Team did not only rely on its own knowledge and ideas, but also on the ideas and opinions of many received through inputs from many managers and employees, and also from contractors within the NASA community. Additional assistance came from the Office of the NASA Inspector General, and other inputs were received from outside of NASA.

In addition, the team evaluated the findings and recommendations from the on-going OneNASA initiative. OneNASA started as a grass roots effort to identify and raise concerns of the workforce to find ways in which the agency could behave in a

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[4] The Clarity Team members included:
- Theron Bradley (Chief Engineer)
- Gwen Brown (Chief Financial Officer)
- Julian Earls (Center Director – Glenn Research Center)
- General Jefferson Howell (Center Director – Johnson Space Center)
- Mary Kicza (Enterprise Associate Administrator – Office of Biological and Physical Research)
- Vic Lebacqz (Enterprise Associate Administrator – Office of Aeronautics; and Institutional Program Officer – Ames Research Center, Dryden Research Center, Glenn Research Center, and Langley Research Center)
- Paul Pastorek (General Counsel) - Chair
- William Readdy (Enterprise Associate Administrator – Office of Space Flight; and Institutional Program Officer – Johnson Space Center, Kennedy Space Center, Marshall Space Flight Center and Stennis Space Center)
- Johnny Stephenson (Leader of the OneNASA Initiative)

manner more conducive to what was best for the agency, not a particular program, center or span of control of a given line of business (Enterprise), center or support function. OneNASA has now become institutionalized and has included many interviews of NASA employees, followed by the organization of their thoughts and observations into a coherent plan to improve NASA[5]. That effort was very valuable to this effort.

This report recommends specific changes that should be undertaken by NASA in order to be able to better respond to the Vision for Space Exploration and address the areas of concern. Surely, there may be more changes that can be made that will serve to promote NASA meeting its mission. As such, this effort is merely a step, hopefully a substantial one, on the journey of improving NASA and equipping it for the future.

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[5] *See* OneNASA Plan attached as Appendix A.

Summary of Findings and Recommendations

Finding # 1

The Existing Organizational Structure Is Inadequate to Achieve the Vision for Space Exploration.

Recommendation # 1

NASA Must Transform the Management Structure and Reporting Relationships of Managers to Execute the Vision for U. S. Space Exploration.

Finding # 2

Oversight of NASA's Center Capabilities Can Be Improved in Order to Meet NASA's Mission.

Recommendation # 2

Begin to Transition to a Single Manager the Responsibilities for Management of the Centers' Strategic Investment Issues.

Finding # 3

The Relationship between the Center Directors and the Headquarters' Functional Support Offices Requires Significant Transformation on the Part of Both Managers.

Recommendation # 3

Headquarters' Functional Support Offices Should Have a Greater Role in Maintaining the Quality and Consistency of the Centers' Functional Support Offices.

Finding # 4

Functional Office Requirements Are Not Coordinated with Centers and can Result in Significant Time and Expense Unnecessarily Being Diverted from the Mission.

Recommendation # 4

Headquarters Should Regulate the Imposition of Informal Requirements on NASA by the Headquarters' Functional Support Offices.

Finding # 5

Ambiguity Exists Regarding the Center Directors' Role in the Line of Authority for Programmatic Activities.

Recommendation # 5

The Center Directors' Assignment for Programmatic Responsibility Should Be Documented and Clear, But Should Be Avoided in Certain Situations.

Finding # 6

The Present Effort to Evaluate and Hold Managers Accountable Is Not Adequate to Achieve the Vision for Space Exploration.

Recommendation # 6

Managers Must Do More Integrated Planning and There Should Be a More Thorough Assessment of the Effectiveness of their Plans and their Roles.

Finding # 7

The Existing Policy Making Forums for Managers Should Be Improved.

Recommendation # 7

NASA Should Create Two Internal Policy Making Bodies – One Short Term and Operational and the Other Long Term and Strategic.

Grounding the Effort with a Common Approach

The principal tenet followed by the Clarity Team was that it was important that the Agency develop clear and straightforward lines of responsibility and accountability in order to effectively manage to meet the mission. By grounding our analysis on a common understanding of responsibility and accountability, we would have a better chance of agreeing on the changes that should be made.

Responsibility – The general rules we applied were that:

1. When responsibility to perform a task is divided among two or more people, no one is responsible.

2. When the scope of responsibility to perform a task is unclear, people are not sure who is responsible.

3. Where responsibility to perform a task is assigned to someone whose other responsibilities conflict in some way with the assigned responsibility, the conflict can, wittingly or unwittingly, result in bad choices.

Accountability – Likewise, the Clarity Team identified a number of circumstances that serve to support holding people accountable for their actions. This includes:

1. Each manager must have a reasonable span of control.

2. People cannot report to committees or groups of people. One-to-one reporting relationships are critically important.

3. Where an individual reports to one individual, but is functionally responsible to another (a matrixed relationship), a high degree of communication and concurrent decision-making is mandatory in order to achieve the mission.

Finally, in order to have effective delegation of responsibility and effectively hold people to account for the responsibility delegated, there must be a proper balancing of the responsibility and accountability.

Finding # 1 – The Existing Organizational Structure is Inadequate to Achieve the Vision for Space Exploration.

The existing organizational structure[6] is not conducive to effective and efficient management of the Vision for U. S. Space Exploration in the following regards:

A. The line of business managers (known as "Enterprise Associate Administrators[7]") and the functional support managers (who support the lines of business and are known as "Assistant Administrators") appear to report to a group of people, including the Administrator, the Deputy Administrator and their staff ("the office of the Administrator"). To appear to report to a group of people leads to confusion in both fact and perception as to responsibility and accountability among and between the managers and the other employees of NASA, as well as to external constituencies.

B. Currently, there are too many direct reports to the office of the Administrator, which creates an unmanageable span of control for the Administrator and Deputy Administrator.

C. Too many lines of business (presently called "Enterprises"[8]) result in difficulty in integration and attainment of synergy in the activities pursued between and among them.

D. While each functional support office has an important role, too many functional support offices currently exist for the managers of the lines of business and the Center Directors to be required to interact with.

E. Need to separate day-to-day operational responsibilities from long-term strategic responsibilities, where appropriate, to ensure the immediate needs of the agency are met while providing the focus needed on strategic issues.

Recommendation # 1 – NASA Must Transform the Management Structure and Reporting Relationships of Managers to Execute the Vision for Space Exploration.

By August 1, 2004, NASA should take the necessary steps to make the following changes in its Strategic Management Handbook and create a new organizational chart[9]:

A. The Organizational Chart should be changed to reflect that the Deputy Administrator reports to the Administrator; and the Associate Administrators for

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[6] The Agency's Current Organizational Chart is attached as Appendix B.
[7] This title will be changed to Mission Associate Administrators. *See* Recommendation # 1,F.
[8] This name will be changed to Missions. *See* Recommendation # 1,E.
[9] *See* Revised Agency Organizational Chart, attached as Appendix C.

the mission areas (formerly referred to as "Enterprise Administrators"[10]) and certain specified functional support administrators should report to the Deputy. The Staff functions should be specifically designated and report to the either the Deputy Administrator or Administrator.

B. The Deputy Administrator is also the Chief Operating Officer (COO) for the Agency and, as such, is primarily responsible for day-to-day operational activities.

C. The position of Chief of Safety and Mission Assurance Office should clearly report directly to the Administrator to assure the Administrator gets direct and unfettered advice in regard to safety. The Rogers Commission called for this and it has been the practice of NASA over the years, but the organizational chart reporting relationship has been ambiguous. The close connection between the two positions should be made absolutely clear so that all may know clearly of the relationship.

D. Education is at the core of our mission and many opportunities exist both inside and outside the Agency to inspire the next generation of explorers. The Office of Education has crosscutting responsibilities as it assures a consistency and focus on these opportunities. Therefore, Education should transform into a functional organization, no longer an enterprise. To insure these activities are identifiable and coordinated by a single office, the former title of Enterprise Associate Administrator for Education should change to Chief Education Officer. This new designation is intended to further enhance coordination and facilitation of resources within and among the designated lines of business to accomplish the Agency mission of "inspiring the next generation of explorers." Other duties and reporting chain of the Chief Education Officer should remain the same.

E. The mission areas should be transformed from seven "Enterprises" to four "Mission Directorates" to achieve greater integration and synergy. They are:

1. **Exploration Systems** – which develops the major systems for human and robotic space flight vehicles, and will result from integrating the responsibility of both Office of Exploration Systems and the Office of Biological and Physical Research, now called the Exploration Systems Mission Directorate. NASA has recognized that it must develop a highly integrated systems command structure focused on a *"systems of systems"* approach that allows for rapid and efficient development of structures and vehicles capitalizing on existing technology and building on success, with the capability of adding new technologies as they are developed. The Administrator called for the formation of such a mission focus late last year and efforts are already well underway to organize this effort. NASA recognizes that the work presently being done in the Office of Biological and Physical Research is critical for informing safety, design, and

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[10] *See* Recommendation # 1,F.

development decisions for exploration flight projects, and that important work should continue.

2. **Science** – which focuses on developing and operating the robotic vehicles and capturing the scientific value from them. The Offices of Earth Science and Office of Space Science shall be integrated to form the Science Mission Directorate. Both existing entities use robotic spacecraft to study different objects from space. The Office of Earth Science observes the earth, while the Office of Space Science studies everything else in space. Additionally, in many cases the discoveries that occur in each existing Enterprise relate in some way to the discoveries in the other Enterprise. This merger will better align and strengthen the science and technology of earth and space science in support of the NASA mission.

3. **Space Operations** – which focuses on operating space flight vehicles and activities, procuring launch services and space communications. It should be called the Space Operations Mission Directorate. The existing Office of Space Flight will largely comprise this effort to safely fly humans in low earth orbit and beyond.

4. **Aeronautics Research**– which focuses on research, technology, and operation of advanced aeronautics applications and technologies to advance the Exploration agenda. The existing Office of Aeronautics should be called the Aeronautics Research Mission Directorate. The Aeronautics Research programs continue to be a major Agency pursuit.

F. The title of Enterprise Associate Administrator should be changed to Mission Associate Administrator and each should continue to be Associate Administrators for the respective Mission directorate. The previous reference to lines of business as Enterprises should be changed to refer them as Missions to reinforce the central theme that NASA's lines of business must be integrated so that the whole will be greater than the sum of its parts. NASA has not adequately integrated its lines of business in the recent past, resulting in duplicative, inconsistent and non-integrated activities. While other future structural steps taken to support an even stronger integration, as noted in this recommendation, the change from Enterprises to Missions should serve to remind all that NASA must approach its work in a more holistic way.

G. The staff position of Associate Deputy Administrator, Systems Integration should be created. The responsibility of the Associate Deputy Administrator for Systems Integration should be to assure that the strategic direction of the agency is achieved. This should be accomplished by assuring that all elements of NASA, programmatically and institutionally, are effectively strategically aligned and integrated. Further, the Associate Deputy Administrator for Systems Integration should be responsible for assuring the proper integration of the lines

of business, Missions, (formerly Enterprises) led by the Mission Associate Administrators are properly coordinated and integrated with the functional support activities provided by the those offices.

H. The functional support offices should be organized so that the direct reports to the Deputy Administrator are reduced to a manageable number. The Clarity Team concluded that a total of seven should remain as direct reports. When combined with the four Mission Directorates, the total of direct reports is reduced from 22 to 11.

I. Functional support offices should be grouped, where possible, based on the potential for synergy and strategic focus between and among them. Certain grouped offices should be placed under either an existing manager or a new manager. That manager should be responsible for:

   1. Developing a strategic approach to managing those functional support offices which report to the manager;

   2. Assuring that the development of the annual plans for each functional office support the strategic plan of NASA, are both strategic and operational in nature, and work synergistically and harmoniously with other management offices in the group and across functional support offices, Mission Directorates and centers.

   3. Holding the functional support offices in the group accountable for the operational and strategic elements of the annual plans and serving as the reviewing official for personnel evaluations.

   4. Serving as the interface with the Associate Deputy Administrator for Systems Integration to assure that the functional support offices assigned are strategically integrated with the rest of the functional support offices and the Mission directorates.

   5. Reviewing and approving, prior to imposition[11], any mandates initiated by any of the functional support offices that have significant budget or schedule impact on Missions, centers or other functional support offices. The Manager should obtain concurrence by the appropriate Mission Associate Administrator prior to imposition of mandates on a center or Mission directorate. The Manager should obtain concurrence by the appropriate Functional Administrator prior to imposition on a functional office. In the event of inability to obtain concurrence, the matter should be elevated to the superior of the non-concurring manager and, if necessary, should be elevated further up the organization hierarchy.

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[11] *See* Recommendation # 4.

6. Representing the functional support offices assigned to the manager on the Chief Operating Officer's Council.

J. The grouped functional support offices should be aligned as follows:

1. Procurement and Small and Disadvantaged Business Utilization[12] should report to the Chief Financial Officer.

2. Human Capital, Institutional and Corporate Management, Equal Opportunity Programs[13] and Security Management and Safeguards should report to a new position called the Associate Administrator for Institutions and Management[14].

3. Public Affairs, Legislative Affairs, External Relations should report to the Chief of Strategic Communications. Additionally, the Chief of Strategic Communications should be responsible for the management of internal communications.

K. Other functional support offices should include the Chief Information Officer, Chief Engineer, Chief Education Officer, and General Counsel. The managers who lead all of the offices referenced in the Recommendation # 1, J and K are collectively referred to as the Functional Administrators.

1. The staff position Director of Advanced Planning should replace the position of Space Architect and be responsible for coordination of all strategic planning activities. The position of the Director of Advanced Planning should be responsible for providing lead support to the Strategic Planning Council (See Recommendation #7), including coordinating the assessment of options and the development of plans and preparing issues for decision making by the Strategic Planning Council.

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[12] In accordance with law, the Office of Small & Disadvantaged Business Utilization has a reporting relationship to the Deputy and the Administrator. Further, the Office shall have the right to access the Administrator of Deputy Administrator for any purpose upon reasonable notice.

[13] In accordance with law, the Office of Diversity and Equal Opportunity has a reporting relationship to the Deputy and the Administrator. Further, the Office shall have the right to access the Administrator of Deputy Administrator for any purpose upon reasonable notice.

[14] The Associate Administrator for Institutions and Management would also have the responsibilities set forth in Recommendation # 2, B.

Finding # 2 – Oversight of NASA's Center Capabilities Can Be Improved in order to Meet NASA's Mission

The decision-making process relative to the level of investment in facilities or in workforce personnel competencies in a center is complex. This is especially true where the needs of a given Enterprise (now Mission[15]) may compete with the needs of the entirety of NASA. The matter is an important one as the direction of investments in NASA's programs is shifting and redirected based on aligning with the new Vision for Space Exploration implementation and the start up of Project Constellation. The Clarity Team made a thoughtful examination of this important issue and found the following:

A. The Enterprise Associate Administrator's primary responsibility is to manage the Enterprise, which is a line of business spending in the range of anywhere from hundreds of millions to several billion dollars to "purchase" services inside and outside of NASA.

B. The centers manage and support most of the Enterprise program activities.

C. In order to supply the needs of the Enterprises, the centers require facilities and personnel competencies that cannot be provided by the private sector in order to respond to Enterprise requirements.

D. Historically, NASA has handled this in two different ways:

   1. The first was to manage the level of investments required for facilities and personnel competencies using a single manager, separate from the lines of business, to make all decisions affecting these matters. The rationale was that a single decision maker could focus on the needs of the Agency as a whole and make decisions on a broad, non- parochial basis.

   2. At other times, various Enterprise Associate Administrators have served as an Institutional Program Officer for identified centers. The assignment of a center to an Enterprise was based on the fact that most of the work of the center was targeted to the assigned Enterprise. The rationale was that in order for the Enterprise to meet its given mission, the relevant Enterprise Associate Administrator must have a decision making role regarding the center's choices in facilities and/or personnel competencies investments.

E. Presently, NASA has adopted the latter management philosophy, because the workload of most of the centers has generally been dominated by the Enterprise that governs it.

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[15] When referring to the past or present (usually in the Findings sections of the report), the term Enterprise will be used. When referring to the future (usually in the Recommendations sections of the report) the term Mission will be used.

F. At the present time, the Enterprise Associate Administrators who govern centers relative to investments and decisions regarding facilities and personnel competencies are referred to as an Institutional Program Officers and are assigned the responsibility to do two things:

  1. Maintain the institutional health of the center in order that it meet its mission and the mission of NASA, by funding the institutional facility and personnel competency requirements of the center with its own programmatic dollars.

  2. Serve as the reviewing official on the performance of the Center Director.

G. The Institutional Program Officer has been seen an effective way of managing and maintaining the institutional facility and personnel competencies of the centers. This is because the Enterprise to whom a center is assigned has historically maintained a substantial amount of program dollars at that center. Thus, there has been a significant financial and programmatic nexus and an important synergy between Enterprise and the center to which it is assigned.

H. However, full cost has shifted the responsibility for funding institutional activities from institutional managers within Institutional Program Officer to program managers who purchase the services. Thus, with the implementation of full cost accounting, the new Vision for Space Exploration, and the changing programmatic activity at many, but not all, centers, usefulness of the Institutional Program Officer is diminishing and expected to continue to decline. Due to these changes, the Center Directors have a larger role to play in institutional management on a day-to-day basis, with resources coming from a larger user base.

I. Moreover, whether or not there is any intentional behavior on the part of the Institutional Program Officer, he or she can be conflicted of interest when it comes to whether the Institutional Program Officer should support a Center requirement for another Enterprise where it doesn't benefit (or even detracts from) that Institutional Program Officer's Enterprise activities. This arises in particular in the case of diverse Centers providing substantial services to more than one Enterprise.

J. As a consequence of the changing environment and the resulting diversification of center business, there is the need for a single entity that attempts to resolve a given issue from a strategic point of view investing and reducing investments in facilities and personnel competencies at the macro level. A single manager can then make decisions as to what is best for NASA's long-term viability as a whole and providing guidance and decision-making around the given issue.

K. The operations and programs handled by the Johnson, Kennedy, Marshall and Stennis Space Centers and which are presently assigned to the Office of Space Flight (now Space Operations) remain largely devoted to that line of business and there is merit to maintaining the Institutional Program Officer relationship in the near term, particularly while NASA is preparing to return the Space Shuttle to flight.

L. The operations and programs handled by the Ames Space Center and presently assigned to the Office of Aeronautics (now "Aeronautics Research") is no longer substantially aligned to that line of business.

M. The operations and programs handled by the Dryden Flight Research Center and the Glenn and Langley Research Centers and presently assigned to the Office of Aeronautics (now "Aeronautics Research") remain largely devoted to that line of business, although the business of those centers are rapidly becoming more diverse.

N. The operations and programs handled by the Goddard Space Flight Center presently assigned to the Office of Earth Science (now Science) has shifted its predominant activities from Earth Science to Space Science.

O. The Jet Propulsion Laboratory is referred to as a center but is a Federally Funded Research Development Corporation that conducts NASA operations on government- owned property. The Jet Propulsion Laboratory is run by the California Institute of Technology under contract with NASA. Historically, the Jet Propulsion Laboratory has made all of the investments regarding personnel competencies and skill mix. The investments regarding facilities have been made by the programs, which require the facilities. This management philosophy is embedded in the contract between NASA and the California Institute of Technology and is consistent with the approach taken in this report.

Recommendation # 2 Begin to Transition to a Single Manager the Responsibilities for Management of the Centers' Strategic Investment Issues .

Because the new Vision for Space Exploration requires a significant shift in the Mission of NASA, resulting necessarily in the shifting of the investments in programs, which leads to changing the investments in the centers, the Clarity Team makes the following recommendations:

A. NASA transfer to the Associate Administrator for Institutions and Management the responsibilities previously held by the Institutional Program Officer that pertain to the center's facility capabilities and personnel competencies which are important to address on a long-term, strategic basis and impacts NASA in a significant way.

B. In addition to other responsibilities[16], the responsibilities of the Associate Administrator for Institutions and Management include:

1. Developing, and recommending for the approval of the Strategic Planning Council, a Strategic Institutional Investment Plan which identifies the long term NASA-wide strategic requirements on a center by center basis for facility capabilities, infrastructural needs, personnel competencies and skill mix essential for the Agency's mission. Prior to making such a determination, the Associate Administrator for Institutions and Management must:

   a. Communicate with the stakeholders through a formal process which would include all Mission Associate Administrators, all Center Directors, appropriate representatives of the functional support offices, particularly Human Resources, so as to obtain very diverse views of the relevant issues; and

   b. Consult NASA's Human Capital Plan and evaluate its efficacy and application regarding skill mix and personnel competencies needed in the centers for the ability to meet the Vision for Space Exploration.

2. Identifying and pursuing the necessary funding authority by the Strategic Planning Council to support the financing of such a Strategic Institutional Investment Plan.

3. Managing the Corporate G&A funding and overseeing center G&A, service pool, and civil service workforce policies. These policies should be the responsibility of Center Directors to implement.

C. Certain Mission Associate Administrators should be given responsibility as Headquarters Center Executives (in lieu of the term Institutional Program Officers) with the following responsibilities:

1. Oversee center implementation of policy determinations by the Associate Administrator for Institutions and Management; and

2. Hold Center Directors accountable for their performance.

3. Lead evaluation of Center Director performance with inputs from Mission Associate Administrators and Functional Administrators, including Safety & Mission Assurance and Independent Technical Authority in the following manner:

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[16] Set forth in Recommendation # 1,H.

a. An appraisal plan should be designed by the Associate Administrator for Institutions and Management and approved by the Strategic Planning Council;

b. The written center plan and evaluation process should be rigorous and thorough commensurate with the importance of the work being performed there. The plan used by NASA for the Jet Propulsion Laboratory is an example of such a plan that might serve as a model;

c. Written evaluations of how well the Center Director is performing and how well the plan is implemented should occur annually and periodically during the year (to allow opportunities for course correction during the year); and

d. Mission Associate Administrators, Safety and Mission Assurance and Functional Administrators should be provided opportunity for written inputs in developing the plan at the outset and in evaluating the plan during the year upon its conclusion.

4. Designated Mission Associate Administrators are assigned as HQ Center Executives with respective centers as follows:

   a. Space Operations – Johnson, Marshall, Stennis and Kennedy

   b. Science – JPL, Goddard and Ames

   c. Aeronautics Research – Glenn, Langley and Dryden

5. The title of Institutional Program Officer should be discontinued, although role of Institutional Program Officer should complete transition to role of Headquarters Center Executives no later than beginning of FY 2006, including transfer of appropriate personnel to Associate Administrator for Institutions and Management.

6. Following a spirited debate on whether the Exploration Systems Enterprise (now "Exploration Systems Mission Directorate") should be assigned a center, the final vote was that it should not. The principal reason was that if it were assigned a center there may be some compulsion by the Enterprise to "give" business to the center to address the center needs and this would not provide an unfettered situation that is conducive to finding the best solution at the best price. This very rationale supports a belief by some that the Institutional Program Office should be phased out altogether.

Finding # 3 – The Relationship between the Center Directors and the Headquarters' Functional Support Offices Requires Significant Transformation on the Part of Both Managers.

    A. According to existing policy, the managers of the functional support offices have the responsibility to:

        1. Focus on improving processes;

        2. Stimulate efficiency in the performance of functional activities related to the programs;

        3. Provide consistency and uniformity, when it serves Agency management objectives, across the Enterprises;

        4. Oversee the performance of their particular functions across all of the centers, and

        5. Provide liaison to external organizations performing similar functions and stakeholders who establish Government-wide policy and requirements.

    B. The functional support offices are the support elements to the mission of the agency. They are integral and important to getting the mission accomplished. The functional support offices need to be transformed in a way that the mission objective is achieved much more effectively than it has in the past.

    C. Functional support offices and Center Directors must be aware of how to rectify problems under existing authority and be given additional authority, if needed.

    D. Most of the preceding findings arise from existing provisions of NASA policy and offer authority for the functional office managers. However, no corresponding formal mechanism by which the functional office managers can hold the center functional office personnel accountable appears to exist.

    E. The Clarity Team found numerous examples of a lack of uniformity of approach by the centers in NASA. The approaches to various functional matters are as diverse as the number of Center Directors.[17].

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[17] For example, in the area of procurement, NASA has a debriefing procedure for contractors who wish to understand why their particular contract bid proposal did not win a competition. This debriefing process has been applied differently from Center to Center. Where a Center awards a contract and Contractor A loses, one Center (having a reputation for giving a very sparse amount of information) will debrief Contractor A using a minimalist approach. If the same Contractor A loses a different contract managed by another Center, it is possible that the debriefing will be a totally opposite approach, where a detailed explanation will be given to the very same contractor. The legal and procurement communities (at both the headquarters and the centers) have come together to develop a consistent policy throughout NASA to rectify this matter, yet implementation comes at the Center level. However, the relevant functional offices at HQ cannot insist on implementation except by negotiation.

F. Some examples of duplication of functional support in the centers and Headquarters also exist, and should be eliminated or consolidated. Functional support offices have not acted strongly enough or have not had adequate authority in the past to address these issues.

D. The worst-case scenario, which demonstrates weakness in the management roles between the functional support offices and the Center Directors, is manifested by the significant failure in the area of financial reporting for NASA, outlined as follows:

1. This past year NASA's outside auditor determined that the books and records of NASA were so unreliable that it could not determine whether they accurately reflected the true financial condition of NASA[18]. This was the second time in three years that the auditor was unable to assess the financial condition of NASA. The auditor determined that NASA should place all of the center accountants under the direct responsibility of NASA's Chief Financial Officer. The Office of Inspector General has also declared that the Chief Financial Officer should have direct responsibility for the center and Enterprise accounting functions.

2. If the Chief Financial Officer is to orchestrate a change in NASA's financial reporting, the Chief Financial Officer must essentially "negotiate" with 15 people (10 Center Directors, 4 Enterprise Associate Administrators and if not satisfied, then she must negotiate with the Deputy Administrator. The task is time consuming, fatiguing, impractical and difficult.

3. Some confusion appears to exist as to the root causes of the problem. But regardless, the financial reporting weakness for NASA is a serious problem of significant proportions and dramatic steps must be taken to deal with the problem.

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[18] Price Waterhouse Coopers audit report of January 31, 2004.

Recommendation # 3 – Headquarters' Functional Support Offices Should Have a Greater Role in Maintaining the Quality and Consistency of the Centers' Functional Support Offices.

A. In addition to existing duties within assigned substantive area to which they have been assigned, the Functional Administrators shall be responsible at Headquarters and in their respective offices at all centers[19] for:

   1. Assuring the quality of all functional activities, and

   2. Achieving consistency of approach, where appropriate, of the functional activity across the agency.[20]

B. In an effort to achieve consistency of approach to functional activities, the Functional Administrators shall undertake:

   1. To identify opportunities to achieve a more consistent approach to performing functional activities and eliminate duplication of functional support activities within the next 90 days, and

   2. Present plans to achieve consistency and eliminate duplication within an additional 90 days thereafter.

C. The Functional Administrators shall have greater authority to assure the quality, consistency and non-duplicative functional support activities throughout NASA. This should be accomplished by giving Functional Administrators greater control over the actions of the functional support offices in the centers in the following respects.

   1. Chief Financial Officer:

      a. Given the challenges that NASA has faced in the past (and which it continues to face) in the areas of financial reporting and budgeting, all of the budgeting and financial center personnel who reside in the center's office of the Chief Financial Officer shall report to the NASA Chief Financial Officer effective August 1, 2004[21];

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[19] Excluding the Jet Propulsion Laboratory, but including the NASA Management Office which interacts with the Jet Propulsion Laboratory on behalf of the Science Mission.

[20] This should include recommending centralizing functional services at a Center or Headquarters in order to eliminate or consolidate functional duplicative efforts between and among Headquarters and the Centers.

[21] The mechanics of transferring the billets for the employees to the Office of the Chief Financial Officer will be accomplished as soon as possible. The Center Directors will conduct the performance review for the current evaluation cycle as part of the transition.

b. Following the shift in responsibility described in Recommendation C.1.a., *above*, the Center Directors should have the same concurrent authority over the center financial offices personnel that Functional Administrators are granted in Recommendation C.2., *below*.

c. This reporting arrangement shall continue until NASA achieves two consecutive years of unqualified opinions by its auditors. After that milestone is achieved, the Administrator should make a determination regarding whether the responsibility for centers' financial offices should revert back to the centers. In the event that the Administrator decides to have responsibility revert back to the centers, the Chief Financial Officer's control shall be relinquished and the Center Director and the Chief Financial Officer shall revert to the process as described in Recommendation # 3, C.2., *below*.

2. All Other Functional Support Offices:

a. The functional employees for all functional support offices at the centers shall continue to report to the Center Directors.

b. However, the Functional Administrators[22] shall have concurrent review on key issues (defined below) in the center functional support offices. Concurrent review means that the Functional Administrators shall either concur or non-concur with the Center Directors on key issues pending in the center functional support offices and the Center Director and the Functional Administrator must agree on the action before the matter is approved or the matter should be elevated as outlined below.

c. Specifically, the key issues for which there should be concurrent review include the following:

  i. Hiring (or appointment), firing and evaluation of the senior-most functional officer (including acting officials) of the center functional office; and

  ii. Determining of the appropriate staffing complement for the center functional office.

d. In the event of non-concurrence by a Functional Administrator, the matter should be elevated to the Headquarters Center Executive for the center. In the event of non-concurrence at that

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[22] As listed in Recommendation # 1, J and K.

level, the matter can be elevated to the Deputy Administrator for resolution.

Finding # 4 - Functional Office Requirements Are Not Coordinated with Centers and can Result in Significant Time and Expense Unnecessarily Being Diverted from the Mission.

A. The functional support offices can and do impose requirements upon the centers to provide information and to comply with NASA-wide policy. These requirements may not flow through the NODIS system.

B. Centers and Enterprises at times perceive such requirements as interfering with the mission and the programs.

C. These requirements are usually not coordinated between the functional support offices and the centers or the Enterprises (or even other functional support offices) and they may result in conflicting priorities for the centers or NASA.

D. The functional support activities imposed on the centers or NASA can be costly and manpower intensive resulting in real impacts to the programmatic activities of the centers or other activities of NASA.

Recommendation # 4 – Headquarters Should Regulate the Imposition on NASA of Informal Requirements by the Headquarters' Functional Support Offices.

A. The Functional Administrator should obtain concurrence from the Mission Associate Administrator prior to the imposition of any requirements or policy upon the centers or the Mission that will have a significant money or time impact on the resources of the center or the Mission Directorate.

B. The Associate Administrator for Institutions and Management should provide necessary guidance to determine what whether a requirement is "significant".

Finding # 5 – Ambiguity Exists Regarding the Center Directors' Role in the Line of Authority for Programmatic Activities.

A. At the present time, some Center Directors serve in the line of authority and responsibility for programmatic activities and some do not. The following examples illustrate the point.

   1. The Center Director <u>does not</u> serve in the line of authority and responsibility for programmatic activities. Typically, this is true for a

high-risk activity involving humans, activities which are being conducted at multiple centers or a combination of both. (E.g. The JSC Director is not in the programmatic line on the Space Shuttle and International Space Station programs). Of course, the Center Director supports the programs in a significant way.

2. The Center Director <u>does</u> serve in the line of authority and responsibility for programmatic activities where he directs program activities as the head of the program or project at the center or, if not serving as the head of the program, serves somewhere in the line of authority. (E.g. GSFC Director has been delegated that program management responsibilities for Space Science and Earth Science by the respective Enterprise Associate Administrators).

B. While it may be necessary or desirable to have two different approaches, some significant concerns arise where the Center Director is assigned to serve in the line of authority:

1. No uniform guidelines or regulations exist for determining whether or when a Center Director may be assigned to serve in the line of authority and responsibility for programmatic activities. There should be uniform standards and regulations that govern this situation throughout NASA in order to avoid ambiguity, but this does not mean that we should adopt a "one size fits all" approach.

2. A strong concern exists within NASA that it should avoid having Center Directors serve in the line of authority and responsibility for programmatic activities where conflicts of interest or communication breakdowns can occur. Presently, no guidance or regulations exist to determine the circumstances where that would occur and Enterprise Associate Administrators make that determination, without review, on a case-by-case basis. On the other hand, there is an equally strong concern, if not stronger, that the Center Directors are in the best position to make the very important decisions related to the success of the program and with proper oversight by the Enterprises, the conflicts, perceived or real, can be managed.

3. The internal and external communities are sometimes not sure which approach applies, why it applies and who is ultimately responsible for what.

4. The Center Director may be responsible for the Independent Technical Authority at the center level (although the Independent Technical Authority structure has not yet been finalized). NASA needs to assure that where there is an assignment of a Center Director to serve in the line of authority and responsibility for programmatic activities, this does not

conflict with the Center Director's role in the Independent Technical Authority.

C. An important tangential issue remains: the need to clarify the terminology between <u>program</u> activity and <u>project</u> activity.[23] The lack of clarity leads to confusion about responsibility and whether the Center Director should serve in the line of authority and responsibility for programmatic activities. Thus, in the Space Shuttle program, the Center Director is permitted to serve in the line of authority and responsibility for programmatic activities for a designated <u>project</u>. Assignment of <u>projects</u> (that may be a part of a larger <u>program</u> to which a Center Director should not be assigned) may be acceptable, **provided** it doesn't create unreasonable conflicts of interest, lack of communication, other high risks or Independent Technical Authority concerns. In the future, there should be uniformity of policy, clarity and rigor of analysis.

Recommendation # 5 – The Center Directors' Assignment for Programmatic Responsibility Should Be Documented and Clear; But Should Be Avoided in Certain Situations.

A. The program line of authority should Mission Associate Administrators, Program Director, Center Director[24], Program Manager and Project Manager. NASA should apply uniform terminology throughout its programmatic activities in all Mission directorates in order to avoid the inherent confusion created by different Mission directorates (or their programs) using different terminology[25].

B. The Chief Engineer's Office should undertake a survey of the different uses of these terminologies ("program" and "project") throughout NASA, assess the situation and issue clarifications and regulations to universally describe the terms "programs" and "projects" and the differences between them. Further, the Chief Engineer's Office shall develop a universal approach to designate which term should be assigned to a given activity. These activities should be concluded within the next 90 days.

C. The Strategic Planning Council should, if necessary, issue clarifications and regulations to describe uniform circumstances when Center Directors should and should not serve in the line of authority and responsibility for programmatic

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[23] <u>Project</u> activity may or may not be a subset of a program and this confusion leads to further necessity to clarify what rules apply.

[24] Typically, the Center Director will be in the line of authority at the point described above. However, the Center Director may not be in the line altogether (as in the Shuttle and ISS programs) or the Center Director may be in the line of authority, but at other parts of this chain. As noted later in Recommendation # 5, in each case, where the Center Director is in the line of authority, care should be taken to identify precisely where in the chain the Center Director is.

[25] Some steps have recently been undertaken by the Chief Engineer's office to clarify this matter. Further investigation should be done by the Chief Engineer to assure that the use of this terminology is uniform throughout NASA.

activities within the next 120 days. In this regard, the following guidance can be given:

1. Generally, a Center Director may serve in the line of authority and responsibility for a program or a project that is conducted at the same center and the activity is not a high-risk human activity. However, each matter should be reviewed on a case-by-case basis to make a conclusive determination to avoid conflict of interest concerns and matters related to the Independent Technical Authority.

2. Assignment of programmatic responsibility should not be permitted where the Center Directors serve in the line of authority and responsibility for programmatic activities involving:

   a. High risk human activities; or

   b. Programs that are conducted at more than one center.

3. Where a major project is part of a program that meets the criterion set forth in Recommendation # 5, C.2.b., *above*, assignment of a Center Director to be responsible for such a project may be acceptable. The definition of major project shall be set by the Strategic Planning Council.

D. In all cases when the Mission Associate Administrator wishes to assign the Center Director to serve in the line of authority and responsibility for programmatic activities (whether to a lead a program or major project or to serve anywhere in the line of responsibility), it shall be the responsibility of the Mission Associate Administrator to:

1. document the Center Director's role in the Program Commitment Agreement;

2. identify where the Center Director's responsibility is located in the programmatic line; and

3. state the rationale and the necessity for doing so.

E. Within the next 180 days, each Mission Associate Administrator should review all existing program or project assignments pre-dating August 1, 2004, where a Center Director serves in the line of authority and responsibility for programmatic activities and the budgeted cost exceeds $500 million and submit for processing a modified Program Commitment Agreement including the information required in Recommendation # 5, D., *above*.

F. For any Program Commitment Agreement submitted after August 1, 2004, where a Mission Associate Administrator determines that the Center Director should

serve in the line of authority and have responsibility for programmatic activities as outlined in Recommendation # 5, C., *above*, that determination shall be documented in a Program Commitment Agreement which shall be reviewed by the Chief Engineer's Office for concurrence that the assignment conforms to the clarifications and regulations derived from the guidance provided for in Recommendation # 5, C., *above*. In the event that the Chief Engineer's Office does not concur, written reasons for the non-concurrence should be provided. The Mission Associate Administrator may then elevate the matter for determination by the Deputy Administrator, who may make a determination which shall be in writing.

Finding # 6 – The Present Effort to Evaluate and Hold Managers Accountable Is Not Adequate to Achieve the Vision for Space Exploration.

A. Presently, the Enterprise Associate Administrator, the Functional Administrator and the Program Manager are to develop plans that align with the strategic plan. The Center Director is not required to do so, although the Center Directors do customarily prepare plans.

B. While in many cases a requirement to prepare plans exists, there is no requirement to:

   1. integrate the plans between and among the relevant managers throughout NASA.

   2. evaluation of plans by the relevant managers throughout NASA to determine whether the manager met his/her planned objectives.

C. The Enterprise Associate Administrator, the Functional Administrator, the Center Director and the Program Manager are all currently evaluated by the person to whom they report. However, these evaluations are performed in differing ways, some with little input from across the Enterprise, functional support offices, centers and programs; some with a lot of input.

D. If NASA is to become highly integrated, there must be a higher level of regular communication and critical input about the plans and actions of the various managers.

<u>Recommendation # 6 – Managers Must Do More Integrated Planning and There Should Be a More Thorough Assessment of the Effectiveness of their Plans and their Roles.</u>

A. In addition to the written center plan and evaluation process referenced earlier, the Associate Administrator for Institutions and Management should develop, the Strategic Planning Council should approve, and the Deputy Administrator should implement by the beginning of Fiscal Year 2005, a process to develop written plans and as well as an evaluation process for which the Mission Associate Administrators, the Functional Administrators, and Program Managers should be held accountable and would be similar to the plan called for in Recommendation # 2, C.3.b. for Center Directors and have, at least, the following features:

1. The relevant manager should develop a written plan for a period of at least one year stating how the manager's organization intends to meet the goals and requirements of the following (as applicable):

    a. The mission activities required by the Mission Directorates;

    b. Safety and Mission Assurance;

    c. The Independent Technical Authority;

    d. The functional support offices;

    e. The centers; and

    f. The Deputy Administrator.

2. With regard to their respective plans, the Mission Associate Administrators, the Functional Administrators, and Program Managers should consult with and receive written input from (as appropriate) Mission Associate Administrators, the Chief Safety and Mission Assurance Officer, the head of the Independent Technical Authority, Functional Administrators, Center Directors and the Deputy Administrator regarding their respective requirements, as appropriate.

3. Requires periodic review and opportunities for course correction during the course of the year by Mission Associate Administrators, the Chief Safety and Mission Assurance Officer, the head of the Independent Technical Authority, the Functional Administrators, Center Directors and the Deputy Administrator.

4. Permits written input by Mission Associate Administrators, the Chief Safety and Mission Assurance Officer, the head of the Independent

Technical Authority, the Functional Administrators, Center Directors and the Deputy Administrator on both the evaluation of the manager and the accomplishment of the plan relative to the areas of interest of the various managers.

5. The reviewing official conducting the evaluation of a direct report may consider all of the inputs referred to in Recommendation # 6, C., D. and E., but the reviewing official should make the final determination of the evaluation of the direct report. The evaluations of the manager's organization above should be one of the bases for evaluation of the relevant manager that a reviewing official may consider.

6. Beginning in Fiscal Year 2005, require the use of 360° performance evaluations[26] for Mission Associate Administrators, the Chief Safety and Mission Assurance Officer, the head of the Independent Technical Authority, the Functional Administrators, Center Directors, the Deputy Administrator, the Assistant Deputy Administrator, Systems Integration, and the Director of Advanced Planning, the Chief Scientist and the Chief Health and Medical Officer. Program Managers should be required to use 360° performance evaluations at the discretion of the Mission Associate Administrators.

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[26] The 360° performance evaluations will be conducted at the end of each fiscal year and will be completed so that this information will be available to the appropriate reviewing official in time to be able to conduct the annual performance review.

Finding # 7 – The Existing Policy Making Forums for Managers Should be Improved.

A. NASA has an Executive Council, which considers both operational short-term matters and strategic long-term matters. The composition of the Executive Council includes the Enterprise Associate Administrators, the Chief of Staff, the Assistant Deputy Administrator – Technical, the Assistant Deputy Administrator – Institutional, the Chief Financial Officer, the Comptroller and the General Counsel.

B. The Executive Council deals well with the operational matters of NASA, but is challenged to find adequate time to review strategic issues facing NASA.

C. Some strategic issues are worked in another forum - the Leadership Council. That forum is very large (about 35 members) and is not conducive to effective and efficient strategic planning.

D. The Space Architect performs the staff work for strategic planning. However, the existing support staff is provided by the existing Enterprises and the Space Architect is not able to really command those resources when needed.

Recommendation # 7 – NASA Should Create Two Internal Policy Making Bodies – One Short Term and Operational and the Other Long Term and Strategic.

A. NASA should create forums for decision making that separate the day-to-day matters of the agency from those that are strategic and long-term in nature:

    1. The Strategic Planning Council shall be formed and shall be comprised of the Administrator, as Chairman, the Deputy Administrator, the four Mission Associate Administrators, and others selected by the Administrator. It shall assume the responsibility for determining the strategic direction of NASA and those matters, which should affect the long-term future of NASA. The Council shall be a recommending council and should advise and recommend to the Administrator, who would make the final determination on all strategic planning recommendations, unless delegated by the Administrator.

    2. The Chief Operating Officer's Council should be chaired by the Chief Operating Officer and comprised of Mission Associate Administrators, the Chief Financial Officer, the Chief Information Officer, the Chief Institutions Manager, the Chief Engineer, the Chief Communications Officer, the Chief Education Officer, the General Counsel, and the Associate Deputy Administrator for Systems Integration for the purpose

of addressing the day to day operational issues. The Council shall be a recommending council and should advise and recommend to the Deputy Administrator, who would make the final determination on all operational recommendations, unless delegated by the Deputy Administrator.

Conclusion

This report marks another step in the journey to endeavor to improve the efficiency and effectiveness of the NASA management team. NASA's organization has been restructured, reorganized and transformed many times in the past 45 years. Each time, NASA was responding to the objective of the vision and mission and other pertinent circumstances existing at the time.
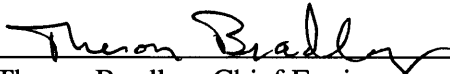
NASA and this country are now embarking on a new Vision for Space Exploration announced by President Bush on January 14, 2004. We believe today's response sets a clearer path for NASA to successfully achieve that Vision and its mission.
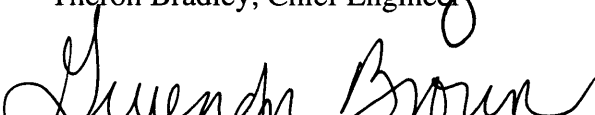
We believe that this effort does substantially answer the concerns raised in the Presidential Commission report even though these recommendations were not intended to be a direct response to it. After all, the genesis of this work began long before the Commission started its efforts. However, we continue to study the report and may make further changes based on its recommendations. We will also ask our employees and our stakeholders whether there is still more to be done in light of the Commission report and their own experience. We will make further changes as required.
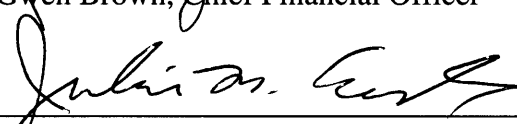
This work is not the glamorous side of NASA's mission, but it is an essential one. Effective management is the bedrock upon which we can pursue understanding our planet and protecting life here on earth, exploring the universe and searching for life, energizing our economic future, and inspiring the next generation of explorers, as only NASA can.
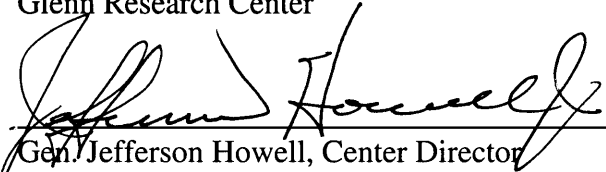
"We can lick gravity but sometimes the paperwork is overwhelming."
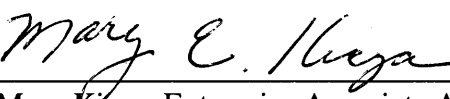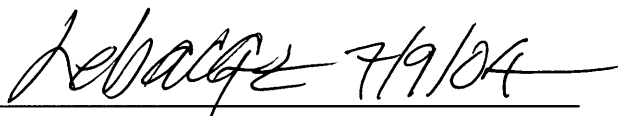*-- Werner von Braun*

Concurrence:

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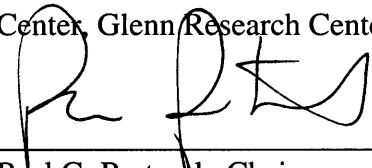Theron Bradley, Chief Engineer

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Gwen Brown, Chief Financial Officer

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Julian Earls, Center Director
Glenn Research Center
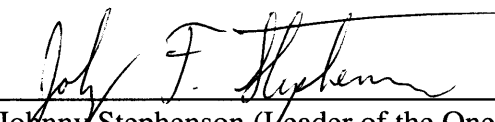
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Gen. Jefferson Howell, Center Director
Johnson Space Center

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Mary Kicza, Enterprise Associate Administrator
Office of Biological and Physical Research

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Vic Lebacqz, Enterprise Associate Administrator
Office of Aeronautics; and Institutional Program
Officer -- Ames Research Center, Dryden Research
Center, Glenn Research Center, and Langley Research Center

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Paul G. Pastorek, Chair

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William Readdy, Enterprise Associate Administrator
Office of Space Flight; and Institutional Program Officer
Johnson Space Center, Kennedy Space Center, Marshall
Space Flight Center and Stennis Space Center

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Johnny Stephenson (Leader of the OneNASA Initiative)

Transformed Structure

Administrator

Inspector General ·············

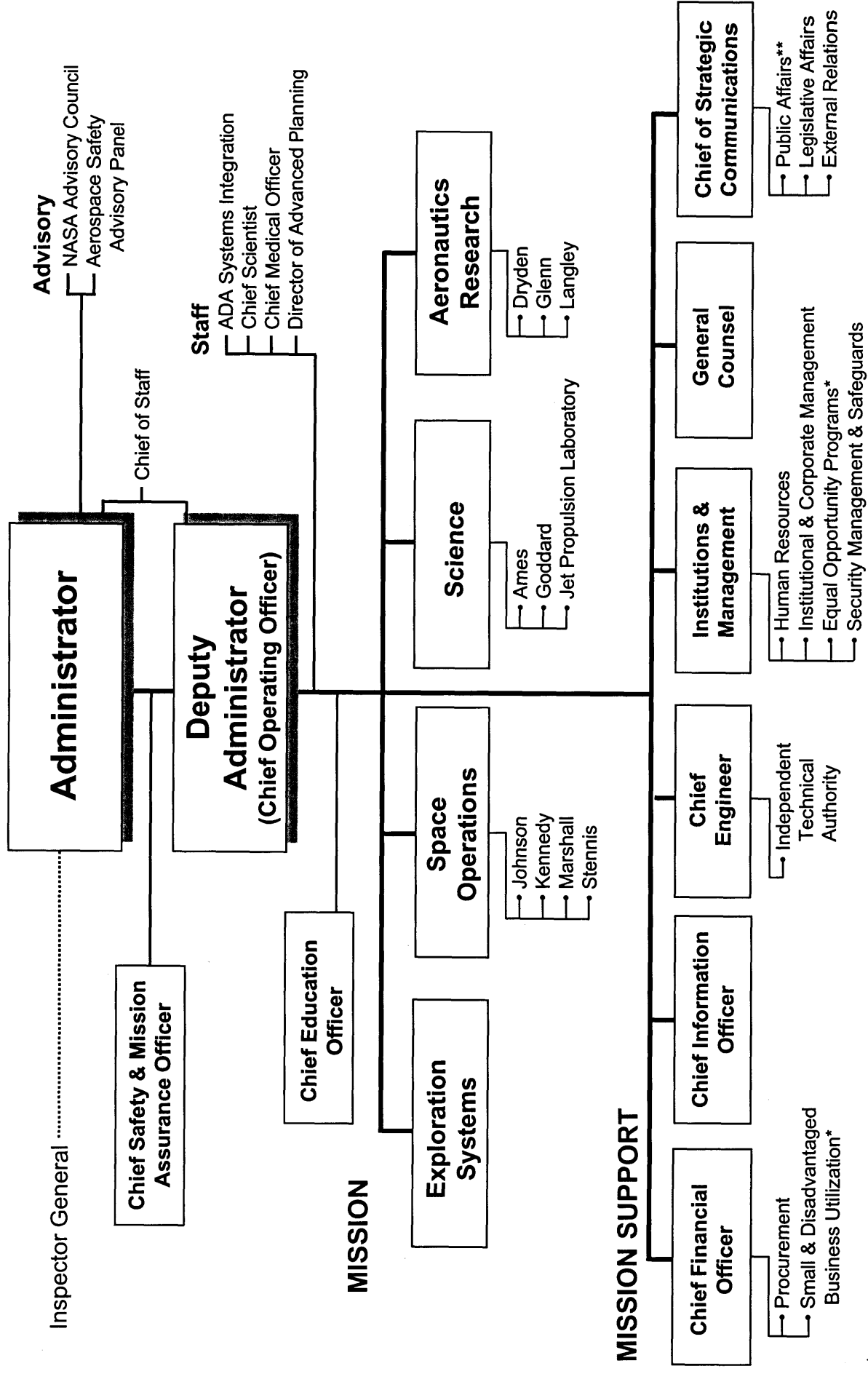Chief Safety & Mission Assurance Officer

Advisory
└ NASA Advisory Council
  └ Aerospace Safety Advisory Panel

Chief of Staff

Deputy Administrator (Chief Operating Officer)

Staff
└ ADA Systems Integration
  ├ Chief Scientist
  ├ Chief Medical Officer
  └ Director of Advanced Planning

Chief Education Officer

MISSION

Exploration Systems

Space Operations
├ Johnson
├ Kennedy
├ Marshall
└ Stennis

Science
├ Ames
├ Goddard
└ Jet Propulsion Laboratory

Aeronautics Research
├ Dryden
├ Glenn
└ Langley

MISSION SUPPORT

Chief Financial Officer
├ Procurement
└ Small & Disadvantaged Business Utilization*

Chief Information Officer

Chief Engineer
└ Independent Technical Authority

Institutions & Management
├ Human Resources
├ Institutional & Corporate Management
├ Equal Opportunity Programs*
└ Security Management & Safeguards

General Counsel

Chief of Strategic Communications
├ Public Affairs**
├ Legislative Affairs
└ External Relations

* In accordance with law, theOEOP and SDBU maintain reporting relationships to the Deputy and the Administrator.
** Including a new emphasis on internal communications

Revised: 6/24/04